

Abstract

Method and apparatus for producing multi-segmented filaments are provided. In one embodiment a first polymer material is passed into a die, the first polymer material and the die being maintained under predetermined rheological conditions. Next, the first polymer material is extruded through a plurality of die openings in the die, the die openings arranged in a group, the group configured to form at least two elementary filaments. Then, the two elementary filaments are connected to one another by adhesion contact to form a multi-segmented filament. In another embodiment a die for producing multi-segmented filaments is provided. This die comprises a polymer source maintaining a polymer under predetermined rheological conditions. A die in communication with the polymer source, the die maintaining the polymer under predetermined rheological conditions and a die plate in fluid communication with the die, the die plate defining a first group of openings, the first group comprising a first opening and a second opening, the first opening and the second opening configured to form a first elementary fiber having a skin and a second elementary fiber having a skin.